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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/772,626	01/30/2001	William B. DeRolf	P5781	9949

7590

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EXAMINER

BADERMAN, SCOTT T

ART UNIT	PAPER NUMBER
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2113

DATE MAILED: 08/17/2004

11

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/772,626

Applicant(s)

DEROLF ET AL.

Examiner

Scott T Baderman

Art Unit

2113

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,9,11,12,14-18,24,26,27,29-33,39,41,42 and 44-48 is/are rejected.
- 7) ☒ Claim(s) 4-8,10,13,19-23,25,28,34-38,40 and 43 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. The indicated allowability of claims 1-43 is withdrawn in view of further consideration of the Applicant's admitted prior art in view of Giordano et al. (5,544,308). See reasoning below.
2. Claims 4-8, 10, 13, 19-23, 25, 28, 34-38, 40 and 43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 16, 31 and 45-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (hereinafter "AAPA") in view of Giordano et al. (5,544,308).

As in claims 1, 16 and 31, AAPA discloses determining a path (various channels) in the storage system to test, wherein the path includes path components including a host adaptor, a link, a device interface, and a device (see specification, pp. 1-2). AAPA also discloses

Art Unit: 2113

performing a series of tests (i.e., performing an initial test) in order to try to locate the source of the problem (see specification, pp. 1-2). However, AAPA does not clearly disclose adding at least one of the path components to a suspect list capable of being a cause of the failure, wherein the suspect list is implemented in a computer readable data structure, performing at least one isolation test on at least one of the path components added to the suspect list, removing the tested path component from the suspect list if the isolation test confirms that the tested path component cannot be a source of the failure, and returning the suspect list to a user to provide information on the path components capable of being the cause of the failure. Giordano discloses a system for automated diagnosis of faults that comprises performing an initial test to list suspected parts that could cause the failure, then perform a series of subsequent tests (isolation tests) to eliminate suspected failures, and then produce a list (to a user) of replaceable parts containing the suspected failures remaining (Figure 12, Abstract, column 3: line 40 – column 4: line 9, column 11: line 29 – column 13: line 59).

It would have been obvious to a person skilled in the art at the time the invention was made to include the process taught by Giordane above into the system taught by AAPA above. This would have been obvious because like AAPA (see specification, pp. 1-2), Giordano (column 1: lines 16-19) also comments on the problems that face manual troubleshooting techniques, and further teaches that the model based reasoning technique is stronger than the manual techniques described above, and is less computer intensive (column 3: lines 28-38). Giordano further teaches that the implementation taught above provides a means of embedding the diagnostic reasoning capability in “any” system as a part of the product hardware, maintenance technician aid hardware or automatic test equipment (column 15: lines 59-67).

As in claims 2, 17 and 32, Giordano discloses wherein the initial test comprises a test of components, and wherein components are added to the suspect list and isolation tested after the initial test indicates a failure (Abstract, column 11: line 59 – column 13: line 59).

As in claims 3, 18 and 33, Giordano discloses wherein the initial test comprises a test of the components, and wherein the components are added to the suspect list and isolation tested after the initial test indicates no failure to provide additional testing of the components (Abstract, column 11: line 59 – column 13: line 59, specifically column 12: lines 61-65).

As in claims 9, 24 and 39, Giordano discloses that additional tests will be performed until the sususpect list cannot be reduced further (Abstract). This would suggest to a person skilled in the art that all components would continue to be tested.

As in claims 11, 26 and 41, Giordano discloses that a user can pre-program the “Diagnostician” with any type of instruction that is appropriate to the situation (column 5: lines 2-5). This would suggest to a person skilled in the art that the user could limit how many test need to be performed.

As in claims 12, 27 and 42, AAPA discloses wherein the device comprises a storage system (see specification, p. 1).

As in claims 14 and 29, AAPA discloses wherein the storage system adheres to the Fibre Channel protocol and architecture and the link comprises an optical fiber wire (see specification, p. 1).

As in claims 15, 30 and 44, Giordano discloses that the “Diagnostician” is a system independent run-time module, and for different applications, the designer must only be concerned with how to get information into the “Diagnostician” (column 5: lines 6-12). Giordano further discloses that the “Diagnostician” utilizes a model of the design being tested, and also can be used for a wide range of designs and design methodologies (column 8: lines 39-47). This would have suggested to a person skilled in the art that any type of component with specific tests could still be accompanied for in the process taught by Giordano above.

As in claim 45, the Applicant is referred to the “obvious” reasoning in claim 1 above. Regarding the test modules, test descriptor modules and rule base object, Giordano discloses one or more test modules, wherein each test module provides code to perform a particular testing operation (Figure 3, column 7: line 58 – column 8: line 15, column 9: lines 38-43), a test descriptor module including one or more test descriptors, wherein each test descriptor specifies a test (i.e., defining a set of tests to be applied) (Figure 3, column 9: lines 38-43), and a rule base object (the Diagnostic Profiler – column 9: lines 43-67) including code defining a flow of operations to performing diagnostic testing, wherein the rule object is operable to call the test descriptor to execute one or more test modules specified by the test descriptor (Figure 3, column 7: line 58 – column 10: line 19).

As in claim 46, Giordano discloses wherein the one or more test modules call at least one library module (e.g., diagnostic knowledge base) to perform operations shared by the one or more test modules (Figure 3, column 7: line 58 – column 10: line 19, column 11: lines 51-53).

As in claim 47, Giordano discloses a suspect list data structure indicating components capable of being a source of a failure, wherein the rule object includes code to add components capable of being a source of the failure to the suspect list and removes components from the suspect list that are determined not to be capable of being the source of the failure (column 11: line 59 – column 13: line 60).

As in claim 48, the Applicant is directed to claim 1 above.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

See Form PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott T Baderman whose telephone number is (703) 305-4644. The examiner can normally be reached on Monday-Friday, 6:45 AM-4:15 PM, first Fridays off.

Art Unit: 2113

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (703) 305-9713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Scott T Baderman  
Primary Examiner  
Art Unit 2113

STB